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Full Length Research

Open Defecation as a Public Health Challenge: Influence of Media Campaigns on Knowledge, Attitude and Behaviour of Residents of FCT-Abuja, Nigeria

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This study assessed open defecation as a public health issue and influence of media campaigns against this practice among residents of FCT Abuja, Nigeria. The study aimed to ascertain the level of knowledge of media campaigns against open defecation among residents of FCT-Abuja; whether mass media campaigns have influenced their attitude towards stopping open defecation and if media campaigns have translated into their positive behaviour towards stopping open defecation. The study was anchored on Agenda Setting Theory. The research method adopted was descriptive survey. Survey research design was used with questionnaire as instrument for selecting 400 respondents for the study. Findings revealed that knowledge level of residents of FCT Abuja about media campaigns against open defecation was high; media campaigns positively influenced their attitude but did not translate into positive behaviour towards stopping open defecation in Abuja. The study concluded that since there are still cases of open defecation, there is still need for continuous media campaigns against such practices.

KEYWORDS: Open defecation, Public Health, Media Campaigns, Knowledge, Attitude, Behaviour.

INTRODUCTION

Living in a clean and safe environment is the fundamental right of every human being. Unfortunately, three billion people worldwide, including hundreds of millions of school children, do not have access to hand-washing facilities, sanitation and hygiene. The act of defecation by an individual

or group of people in an open space, water bodies, shrubs, etc. is defined as open defecation. It is an act of avoiding the toilet during defecation and carrying stool in a way that does not support the hygiene separation of human waste and the human body-and ultimately leads to so many harmful effects on public health in general (Natro et al., 2022). From a global point of view, about 0.9 billion people are still engaged in open defecation, and in the sub-Saharan region of Africa, many citizens still commit the unremitting act (Onyemaechi et al., 2022). In Nigeria, some reports show that about 6-25 % of citizens defecate in the open with variations in the different regions of the country (Natro et al., 2022). This unsustainable sanitation practice is a major threat to public health in many ways, especially in rural areas. It is a main factor that leads to widespread pollution of the environment and water resources, thereby increasing the risk of waterborne and water-related diseases. Diseases such as diarrhea, intestinal worms, polio, typhoid fever, hepatitis, and trachoma affect citizens health due to open defecation and poor sanitation practices (Ufomba et al., 2022).

Economically, open defecation practices pose a lot of burden on low-income countries like Nigeria. Decomposition of 1 gram of stool openly releases parasites, bacteria, parasite eggs, viruses and other pathogens (Benedique, 2023). Consequently, this combination of microbes produces various ailments by entering water bodies thereby denying the citizens access to safe drinking water, adequate and equitable sanitation and hygiene for all and end open defecation by 2030 which is a fundamental right of the citizens as outlined in target 6.2 of the sustainable Development Goals (SDGs). To achieve this goal, World Toilet Day (WTD) is celebrated globally on the 19th of November every year (WHO/UNICEF, 2019). A considerable amount of income is lost to treatment, loss of work and school hours (Kwiringira et al., 2025; Vanguard, 2021). In addition, women and girls are also victims because they suffer abandonment of school, low academic performance, etc. In many cases, women and girls may be at risk of being raped or bitten by animals during the act of open defecation (Sarkingobir et al., 2023).

In 2019, Nigerian Ministry of Water resources in collaboration with UNICEF launched a campaign tagged “Nigeria Open-Defecation-Free by 2025: A National Road Map” aimed at stopping negative environmental practices by the year 2025 (Akindayo, 2021). This is because, the practice of open defecation not only give Nigeria a negative image but also poses obvious environmental, health and economic problems for Nigeria and her citizens. The Nigerian mass media have been at the forefront in disseminating information aimed at total eradication of open defecation in both urban and rural areas. The influence of media intervention messages to rid Nigeria of open-defecation is anticipated to translate to attitude and behaviour change among the populace (Premium times, 2021; Punch, 2019). Nwokolo and Nwokolo (2021) examined the viability of using social media and mobile phone (GSM) as public relations social marketing tool in the campaign against open defecation in South-East Nigeria. The study argued that a greater percentage of the public could be reached with the campaign if approached through the social media networks and GSM such as the Facebook, mobile telephone than the traditional media of newspapers, radio and television that have not yielded much in the envisaged awareness and attitudinal change results. Saleem et al., (2021) assessed the health and social impacts of open defecation on women. The study provides a systematic review of the implications of open defecation that goes beyond the scope of addressing health outcomes by also investigating social outcomes associated with the practice. This study was anchored on Agenda Setting Theory. Agenda-setting theory is traced to the first chapter of Walter Lipmann’s book titled ‘Public Opinion’. In that first chapter - “The World Outside and The Pictures in Our Heads”, Lippmann (1922) argues that the mass media are the principal connection between events in the world and the images in the minds of the public. This implies that people attach importance to an issue or topic base on the manner such issue is portrayed by the mass media. The relevance of this theory to the study is that the more attention the media give to stopping open defecation in the society, the greater is the importance attributed to it by the audience. This implies that the emphasis by the media on the need to stop open defecation in terms of prominence and frequency largely determines the importance that will be attached to it by the public. Therefore, with constant media campaigns against open defecation, the issue will become an important public discourse and the public will be more knowledgeable and willing to stop such practice.

Although, studies have been conducted on media programmes against open defecation in different States of Nigeria, available literature revealed that no study of this nature has been done in FCT -Abuja.

This study therefore aims to ascertain whether or not such media campaigns against open defecation have influenced the knowledge, attitudes and behaviour of residents of FCT-Abuja towards eradicating such environmentally unfriendly practices.

MATERIALS AND METHODS

RESEARCH DESIGN

This study adopted survey research design based on its uniqueness, because information obtained is an unbiased representation of population of interest and standardization of measurement as the same information is collected from every respondent.

STUDY POPULATION

The population figure of residents of FCT-Abuja, according to 2016 projected population census was one million, nine hundred and sixty-seven thousand, five-hundred (1,967,500) (National Population Commission, 2016; National Bureau of Statistics, 2016).

SAMPLE SIZE AND SAMPLING TECHNIQUE

From the population figure of 1,967,500 a sample size of 400 was statistically obtained using Taro Yemane formula as follows:

$$n = \frac{N}{1+N(e)\,2}$$

Where:
n = sample size
N = the population under study
1 = constant
e = margin of error
The established sample size was calculated thus:

$$\frac{1,967,500}{1 + 1,967,500\ (0.05)^2}$$

$$\frac{1,967,500}{1 + 1,967,500\ (0.0025)}$$

$$\frac{1,967,500}{1 + 4,918.75}$$

$$\frac{1,967,500}{4,919.75}$$

n = 399.9186950556430. This is approximately 400. Therefore, n = 400.

The multi-stage sampling technique was used in selecting sample for the study.

Stage one involved selection of ten (10) towns from the thirty- seven (37) towns in FCT-Abuja using simple random sampling technique. The selected towns were Jabi, Wuse, Gwarimpa, Karimu, Utako, Mabuchi, Dutse, Galadimawa, Lugbe, Mpape.

Stage two involved selection of individual respondents from the selected towns using convenience sampling technique. Through convenience sampling also known as availability sampling technique, copies of questionnaire were distributed to individuals in different households, shops, schools and offices within the selected towns.

MEASURING INSTRUMENTS

The measuring instrument was the questionnaire which contained multiple choice questions. The questionnaire had two sections - A and B. Section A contained information on personal data of the respondents such as such as sex, age, marital status, highest educational qualification. Section B contained questions on the opinion of residents of FCT-Abuja on whether the media messages influenced their knowledge, their attitudes and their behaviour towards open defecation. The ten (10) item questionnaire was limited to only closed-ended to provide options for the respondents to choose from. The questionnaires were distributed with the help of two research assistants who were conversant with the study area (FCT-Abuja). Copies of the questionnaires were distributed to residents of Abuja in different places which include - shops, houses, schools, offices etc. This was convenient as the questionnaires were filled immediately by the respondents and collected by the researchers. Data collection took a period of three weeks.

VALIDITY AND RELIABILITY OF MEASURING INSTRUMENT

To ensure validity of the instrument, the researcher drafted the questions in line with objectives of the study. The initial draft of the questionnaire was examined by two Mass Communication experts who improved the content, wording and layout of the instrument. Their comments and observations were used to improve the final content and quality of the instrument.

To ensure reliability of the measuring instrument, a pilot test was conducted using 20 copies of the

Table 1. Demographic Data of The Respondents.

S/N	Variable	Respondents Distribution	Percentage
1	**Gender**	Male	52%
		Female	47%
2	**Age**	8-17	17%
		18-27	21%
		28-37	25%
		38-47	19%
		48-57	10%
		58 and above	8%
3	**Marital Status**	Single	44%
		Married	38%
		Divorced	5%
		Separated	12%
4	**Highest Educational Qualification**	No Formal Education	19%
		Primary Education	30%
		Secondary Education	26%
		Tertiary Education (HND/B.Sc/B.Ed	16%
		Other Degrees (MSc/M.Ed/PhD)	9%
5	**Religion**	Muslim	53%
		Christian	44%
		Traditional Religion	3%
6	**Occupation**	Civil servant	25%
		Farmer	17%
		Trader	18%
		Student	14%
		Self-employed	11%
		Unemployed	15%

questionnaires distributed in Gwagwalada LGA of FCT-Abuja. After an interval of two weeks, another 20 copies of the questionnaires were distributed to the same respondents in the same LGA. The aim was to ascertain if they understood the questions and if their responses would show some similarities. The two sets of data were analyzed in line with the objectives of the study and final analysis showed uniformity in the responses.

METHOD OF DATA ANALYSIS

Data collected were analyzed using frequency tables and simple percentages. These statistical methods were used to enable easy understanding and to ascertain accurate results in line with the research objectives.

RESULTS

A total of 400 copies of the questionnaires were distributed to the respondents but only 386 were duly returned, giving a response rate of 96%. Hence, analysis was made based on the number of questionnaires that was returned and how the responses helped in achieving the research objectives.

The demographic data of the respondents as shown in Table 1 indicate that 52 percent the respondents were Male with 25 percent of them being between the age ranges of 28 – 37 years as the highest while the lowest age range was between 58

Table 2. Responses on The Level of Knowledge of Media Campaign Against Open Defecation Among Residents of FCT-Abuja.

Variable/Responses	Frequency	Percentage (%)
Have you heard media messages against open defecation?		
Yes	250	65
No	136	35
Total	**386**	**100**
Have you heard of "Clean Nigeria: Use the Toilet" campaign by Federal government		
Yes	**201**	**52**
No	**145**	**38**
Not Sure	**40**	**10**
Total	**386**	**100**
What is "Clean Nigeria: Use the Toilet" campaign about?		
Community-Led Total Sanitation to ensure that Nigeria becomes free of open defecation by 2025	100	28
Messages encouraging Nigerians to use toilets/latrine and not to defecate in open spaces	92	24
All the above	180	47
None of the above	4	1
Total	**386**	**100**
What is your source of information on open defecation?		
Television	141	36
Radio	113	29
Newspaper/Magazine	64	16
Billboards/ Posters	8	2
Social Media	60	16
Total	**386**	**100**
How often do you hear messages on open defecation?		
Very often	301	78
Not Very often	69	18
Rarely	16	4
Total	**386**	**100**

years and above with 14 percent. The demographic data representation also shows that 44 percent of the respondents were single with 30 percent of them having primary education. Also, 53 percent of the respondents were Muslim while 25 percent were civil servants.

From data presented in Table 2, it was obvious that the level of knowledge of media campaign against open defecation among residents of FCT-Abuja was high. This was evident in the frequency of their responses where 65% of them indicated they have heard media messages against open defecation, 52% of them confirmed they heard of "Clean Nigeria: Use the Toilet" campaign by Federal government and 48% of them knew what the campaign was about. When asked their source of information on open defecation, the highest number of respondents (36%) indicated they got their information through television and more than half of them (78%) hear this information very often.

As presented in Table 3, for attitudes of the respondents towards media campaigns against open defecation, more than half of the respondents (52%) agreed/perceived media campaigns against open defecation as good efforts by Nigerian government while a majority (48%) of them affirmed that media

Table 3. Responses on Whether Mass Media Campaign Against Open Defecation Has Influenced the Attitude of Residents of FCT-Abuja Towards Stopping Open Defecation.

Variable/Responses	Frequency	Percentage (%)
I see media campaigns against open defecation as good efforts by Nigerian government, health agencies and media experts		
Strongly Agree	202	52
Agree	170	44
Disagree	10	3
Strongly Disagree	4	1
Total	**386**	**100**
Mass media campaigns have significantly influenced my attitude towards stopping open defecation		
Strongly Agree	140	36
Agree	186	48
Disagree	37	10
Strongly Disagree	23	6
Total	**386**	**100**
With media campaigns against open defecation, I don't think I will defecate in open places		
Strongly Agree	151	39
Agree	162	42
Disagree	61	16
Strongly Disagree	12	3
Total	**386**	**100**
I would be telling my relatives and neighbours the need to stop defecating in open places		
Strongly Agree	**196**	**51**
Agree	**150**	**39**
Disagree	**22**	**6**
Strongly Disagree	**18**	**5**
Total	**386**	**100**

campaigns have significantly influenced their attitudes towards stopping open defecation. Interestingly, the highest number (42%) of respondents agreed that with media campaigns against open defecation, they do not think they will defecate in open place while a good percentage (51%) of them strongly agreed that would be telling their relatives and neighbours the need to stop defecating in open places.

From the data presented in Table 4, it could be observed that media campaign against open defecation has not translated into positive behaviour towards preventing this environmentally unfriendly practice among the studied respondents. This was confirmed by the frequency of their responses in which a greater percentage (71%) of the sampled respondents indicated that they still defecated in open places even after watching/listening/reading media campaigns against such practice. A majority (35%) of the respondents indicated they would still be defecating in open places despite media messages while the least percentage (14%) of them affirmed they would report anybody defecating in open place to the appropriate authority as well as help tell people to stop defecating in open places (19%).

Result in Table 5 revealed respondents' opinion on the factors that promotes practice of open defecation in FCT-Abuja, despite media campaigns against this

Table 4. Responses on Whether Media Campaign Against Open Defecation Has Translated into Positive Behaviour Towards Preventing This Environmentally Unfriendly Practice Among Residents of FCT-Abuja.

Variable/Responses	Frequency	Percentage (%)
Have you ever defecated in open places like bush, gutter, waterway, roadside or railway?		
Yes	197	51
No	156	40
Not Sure	33	9
Total	**386**	**100**
Do you still defecate in open places like bush, gutter, waterway, roadside even after watching/listening/reading media campaigns against open defecation?		
Yes	201	52
No	174	45
Not Sure	11	3
Total	**386**	**100**
As a result of media campaigns against open defecation which I have watched/listened/read:		
I would not defecate in open places again	122	32
I would still be defecating in open places	134	35
I would report anybody defecating in open place to the appropriate authority	53	14
I would help tell people to stop defecating in open places	77	19
Total	**386**	**100**

menace. It was obvious that the highest percentage (30%) of the respondents indicated all the above listed factors as being responsible for increased cases of open defecation in Abuja, despite the media campaign. This was followed 15% of them who noted lack of convenient facilities (toilets and latrines) in strategic public places as the factor. However, the lowest percentage (3%) of the respondents attributed increased cases of open defecation to cultural beliefs of some people.

DISCUSSION

From the analysis made, it was found that the level of knowledge of residents of FCT- Abuja on media campaign against open defecation was high. This was confirmed by their responses where 65% of them have heard media messages against open defecation, 52% of them have heard of “Clean Nigeria: Use the Toilet” campaign by Federal government, more than half (78%) of them heard this information very often during the campaign and 48% of them knew what the campaign was about. This finding implies that constant messages against open defecation through the agenda setting function of mass media is adjudged to be the reason residents of FCT-Abuja have known about the public health concern. This finding was, however, contrary to that of Agada-Mba and Anorue (2021) which revealed poor understanding and knowledge between those exposed and those not exposed to open defecation-free communication intervention.

Regarding the attitude of the respondents, it was found that media campaign against open defecation has influenced the attitude of residents of FCT-Abuja and they have a positive disposition towards stopping open defecation. This finding was confirmed by their responses where more than half (52%) of the respondents agreed/perceived media campaigns against open defecation as good efforts by Nigerian government and a good number of them (48%) affirmed that media campaigns have significantly influenced their attitudes towards stopping the

Table 5. Responses on Factors That Promote the Practice of Open Defecation in FCT-Abuja Despite Media Campaigns Aimed at Controlling This Environmentally Unfriendly Practice.

Variable	Frequency	Percentage (%)
Ignorance and Poverty	51	13
Convenience of freeing bowel in open spaces	32	8
Lack of convenient facilities (toilets/latrines) in strategic public places	56	15
Cultural beliefs of some people	10	3
Lack of interest in human and environmental sanitation	19	5
Selective exposure due to different personality factors and motivations	35	9
Lack of constant media messages/campaigns against open defecation	38	10
The fact that media messages do not necessarily change attitude	30	8
All the above	115	30
None of the above	-	-
Total	**386**	**100**

negative practice. Interestingly, the highest number (42%) of respondents agreed that with media campaigns against open defecation, they will not defecate in open place while a good percentage (51%) of them strongly agreed they would be telling their relatives and neighbours the need to stop defecating in open places. This finding in relation to the agenda setting theory used in this study has confirmed that constant media messages against open defecation has actually influenced residents of FCT-Abuja to perceived the campaigns as good efforts by Nigerian government which has translated to their positive attitude towards stopping environmentally unfriendly practice.

Further finding revealed that although, residents of FCT-Abuja have positive disposition/attitude towards government use of media campaigns against open defecation, however, their high level of knowledge and positive attitude towards media campaign against open defecation has not actually translated into positive behaviour preventing towards stopping this environmentally unfriendly practice and promoting proper hygiene practice. This was confirmed by the frequency of their responses where a greater percentage (71%) of the sampled respondents still defecate in open places even after watching/listening/reading media campaigns against such practice. Also, a majority (35%) of the respondents would still be defecating in open places despite media messages. However, only 14%of them would report anybody defecating in open place to the appropriate authority as well as help tell people to stop defecating in open places (19%). When asked the reason they would still be defecating in open places despite media massages against such practice, the respondents noted cases of emergency, lack of convenient facilities at strategic places and the fact that Managers of public conveniences demand for money before allowing someone to make use of it.

Concerning the factors responsible for the increasing cases of open defecation in FCT-Abuja, findings revealed such factors as Ignorance and Poverty, Convenience of freeing bowel in open spaces and Lack of convenient facilities in strategic public places. Other identified factors were Cultural beliefs of some people, Lack of interest in human and environmental sanitation, selective exposure due to different personality factors and motivations and the fact that media messages do not necessarily change attitude. It was obvious that the highest percentage (30%) of the respondents indicated all the above listed factors as being responsible for increased cases of open defecation in Abuja, despite the media campaigns. This was followed 15% of them who noted lack of convenient facilities in strategic public places as the factor.

This finding corroborated the finding of Osumanu et. al., (2019) which revealed that 49.8% of households had no form of toilet facility at home and were either using public toilets or practicing open defecation. They identified that six factors namely –

education, household size, occupation, income, traditional norms and beliefs and ownership of a toilet facility were positively significant in determining open defecation.

CONCLUSION

From the findings of the study, it was concluded that although the residents of FCT-Abuja have high level of knowledge and positive attitude towards stopping of open defecation based on media campaigns, however these have not actually translated into positive behaviour towards stopping this environmentally unfriendly practice and promoting proper hygiene practice. The reason was concluded to be the identified factors especially lack of convenient facilities in strategic public places, ignorance and poverty and the fact that media messages do not necessarily change attitude.

Based on the findings and conclusion, the study recommended the further need for continuous campaigns against open defecation not only through the mass media but through a combination of conventional and new media. The need for government to provide convenience at strategic locations in FCT-Abuja to totally ensure open defecation free society. That government should setup and enforce a monitoring team in FCT-Abuja to monitor and guard the city against deviant persons who may want to defecate in open places contrary to government order. That a day should be set aside for all persons living in Abuja to embark on Community-Led Total Sanitation in their various Estates and Streets to ensure environmental sanitation and open defecation-free city.

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